Madagascar's grasslands: Anthropogenic or ancient?

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Madagascar is generally considered one of the most degraded landscapes on earth. This reputation stems, partly, from the belief that the 'original' forests have been replaced by 'degraded lands' through human activities, especially burning. The 'degraded lands' consist largely of grasslands which cover some 80% of the island. Evidence for their recent origin is the poverty of species in the grasslands and the lack of endemism contrasting with the forested parts of Madagascar. We evaluate this evidence by comparing the completeness of the grass flora relative to southern Africa. We also evaluated grassland specialists and their origin, endemic or African, for plant and animal groups. We conclude that the grasslands are ancient. We suggest that many of the peculiarities of Madagascar's grasslands are part of the wider puzzle of the abrupt origin and rapid rise of C_4 grassy biomes worldwide. The evolutionary and biogeographic implications of this phenomenon have barely been explored.

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Reproductive co-existence between five *Aloe* species in the Gamtoos River Valley, Eastern Cape

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The convergence of five congeneric bird-pollinated plant species into three functional groups based on size, shape, and the arrangements of flowers on the inflorescence, but also nectar rewards, pollen deposition sites on the pollinators, and the degree to which bees play a role in their pollination are shown. Individuals of similar functional groups are divergent in their peak flowering times and limit their degree of flowering overlap by further spatial aggregation and niche separation. The nectar properties was especially useful in structuring the bird pollinator community and suggests that the selective targeting by plant species towards a pollinator's preference could result in greater ethological isolation and hence greater reproductive assurance in mixed co-flowering plant communities. Choice array experiments revealed that it is in fact the fine scale spatial aggregation of flowering individuals that promotes the floral consistency of the bird pollinators probably due to its effect on the energetics of foraging, as when equal choice is available, the frequencies of interspecific visitation increased significantly compared to natural scenarios. Bird behaviour and the ecological intermediateness of one to the species explained its prominence in hybrid combinations.

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Are outreach nurseries an effective conservation tool?

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Implementing organisations and donors frequently view nurseries as an inexpensive means of incorporating local stakeholders from impoverished communities into conservation initiatives, and to concurrently enable them to earn incomes or derive other socioeconomic objectives. An evaluation was recently conducted of 65 South African outreach nurseries, of which ten were examined in detail. The projects encompassed a range of natural resource management (NRM) objectives: (i) contributing to local and regional greening initiatives; (ii) supplying plants to gold mine, alien plant control and/or wetland rehabilitation programmes; (iii) cultivating an endangered species prized by private collectors; (iv) growing medicinal plants for the subsistence sector and (v) growing wood fuel and other agroforestry species for local markets. Despite the small-scale nature of many projects, outreach nurseries required intensive and prolonged input from implementing agencies, and most projects were plagued with financial and business management difficulties. Where projects achieved their NRM objectives, conservation and socioeconomic objectives tended to be aligned. For example, outreach nurseries demonstrated that they are capable of feeding into regional greening and environmental rehabilitation interventions by supplying high volumes of hardened seedlings. However, a nursery established to supply plants to alien plant control and wetland rehabilitation programmes closed before achieving its objectives, mainly due to the inexperience of the implementing agency. A project set up to cultivate an endemic species favoured by local and international private plant collectors failed to achieve its conservation objectives within its first nine years due to a difficult local sociopolitical environment. After 6–10 years, none of the medicinal plant nurseries achieved their primary goal of reducing the levels of harvesting from the wild at even the scale of the participating groups. Similar problems were experienced in projects established to address fuel wood pressures, as few community